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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/789,215 | 02/27/2004 | Linlin Xing | FDN-2829 | 9090 |

7590 06/26/2009
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| EXAMINER |
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COLE, ELIZABETH M

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| ART UNIT | PAPER NUMBER |
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1794

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| MAIL DATE | DELIVERY MODE |
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06/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/789,215 | Applicant(s) XING ET AL. | |
| | Examiner Elizabeth M. Cole | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/15/09 has been entered.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 8, 11, 15, 21, are rejected under 35 U.S.C. 102(b) as being anticipated by Kielbania et al, U.S. Patent No. 5,945,473. Kielbania et al discloses a binder composition suitable for use as binder for fiberglass, (col. 8, lines 39-44), comprising a water based polyurethane which may be either aliphatic or aromatic, (col. 3, lines 20-21), and an additional polymer, such as urea formaldehyde, (col. 7, line 36), wherein the water based polyurethane is present in an amount of 5-75 weight percent and the binder is present in an amount of 0.5-60 weight percent. Kielbania teaches that the combination of the water based polyurethane and the resin binder such as urea formaldehyde improves the properties of the resulting polymeric resin blend. See col. 2, lines 47- col. 3, line 17. The polyurethane can be a carboxylated polyurethane. See col. 4, lines 1-col. 6, line 32. The binder is in the form of an aqueous emulsion and thus meets the limitation of an aqueous resinous fiber binder. See col. 1, lines 10-16.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-15, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kielbania et al, U.S. Patent No. 5,945,473 in view of Heine U.S. Patent No. 6,146,705. Kielbania et al discloses a binder composition suitable for use as binder for fiberglass, (col. 8, lines 39-44), comprising a water based polyurethane which may be either aliphatic or aromatic, (col. 3, lines 20-21), and an additional polymer, such as urea formaldehyde, (col. 7, line 36), wherein the water based polyurethane is present in an amount of 5-75 weight percent and the binder is present in an amount of 0.5-60 weight percent. Kielbania teaches that the combination of the water based polyurethane and the resin binder such as urea formaldehyde improves the properties of the resulting polymeric resin blend. See col. 2, lines 47- col. 3, line 17. The binder is in the form of an aqueous emulsion and thus meets the limitation of an aqueous resinous fiber binder. See col. 1, lines 10-16. Kielbania differs from the claimed invention because although Kielbania teaches using the resulting composition as a binder for use with glass fibers and fiberglass mats, Kielbania does not teach the particularly claimed fibers and amounts of fibers and binders, and does not specifically teach a roofing shingle material. Heine discloses a fibrous glass mat comprising fibers having a length of 1-1.5 inches and a diameter of 14-18 microns, (see col. 2, lines 35-44) which are bonded with

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a urea formaldehyde binder. The binder is present in an amount of 5-15% by weight. The mat can be used as a shingle and can have asphalt applied to it after formation. See col. 4, lines 1-27. It would have been obvious to one of ordinary skill in the art to have employed fibers having the size and in the amount taught by Heine in order to form a roofing material which is bonded with the binder composition of Kielbania, in order to take advantage of the improved properties which are obtained by the mixture of the water based polyurethane and the urea formaldehyde as taught by Kielbania.

6. Applicant's arguments filed 5/15/09 have been fully considered but they are not persuasive. Applicant argues that Kielbania fails to teach an aqueous resinous fiber binder. However, Kielbania discloses a binder composition which is in the form of an aqueous emulsion. Therefore, Kielbania teaches an aqueous resinous binder.

7. Applicant argues that Kielbania's resinous binders are insoluble in water and employ an ethylenically unsaturated monomer solvent and that the binder of Kielbania is not dispersible itself in water without the aid or use of a surfactant. However, the claim do not recite that the binder is soluble in water but instead recite an aqueous resinous binder. The instant specification explains that the instant aqueous binder is in the form of a polymeric emulsion which is what is taught by Kielbania. Further, the claims do not require that the polymer be dispersible without the use of surfactants and the claims employ open claim language and thus do not preclude additional components such as surfactants, solvents, etc.

8. Applicant argues that the composition of Kielbania requires the presence of three components, a water-dispersible polyurethane, a polymer prepared from an

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ethylenically unsaturated monomer and at least one addition polymer, a polymeric performance enhancer. However, as noted above, the instant claims employ open language and do not in any way preclude the presence of additional components.

9. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

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